

I claim:

1. A tooth-bleaching composition for contacting a tooth surface in a subject,
comprising:

5 a hydrogen peroxide-containing compound; and

a matrix for administering the hydrogen peroxide-containing
compound to the tooth surface, the matrix comprising a thickening agent, an agent
for stabilizing the hydrogen peroxide-containing compound, a pH adjusting agent
and a calcium chelating agent, wherein the pH of the tooth-bleaching composition
10 during the bleaching process is substantially constant within a range of pH 6.0-10.

2. A tooth-bleaching composition according to claim 1, wherein the hydrogen
peroxide-containing compound is hydrogen peroxide.

15 3. A tooth-bleaching composition according to claim 1, wherein the hydrogen
peroxide-containing compound is carbamide peroxide.

4. A tooth-bleaching composition according to claim 1, wherein the hydrogen
peroxide-containing compound is a percarbonate salt.

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5. A tooth-bleaching composition according to claim 4, wherein the percarbonate salt is selected from the group consisting of sodium and potassium percarbonate.

5 6. A tooth-bleaching composition according to claim 1, wherein the composition has a pH in the range of pH 7.0-10.0.

7. A tooth-bleaching composition according to claim 6, wherein the composition has a pH in the range of pH 8.0-9.5.

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8. A tooth-bleaching composition, according to claim 1, wherein the calcium chelating agent is selected from the group consisting of EDTA and its salts, citric acid and its salts, gluconic acid and its salts, alkali metal pyrophosphates and alkali metal polyphosphates.

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9. A tooth-bleaching composition, according to claim 8, wherein the calcium chelating agent further acts as a stabilizing agent for the peroxide containing composition.

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10. A tooth-bleaching composition, according to claim 9, wherein

wherein the calcium chelating agent is 1-hydroxyethylidene-1,1-diphosphonic acid.

11. A tooth-bleaching composition according to claim 1, wherein the composition is capable of a detectable tooth-bleaching effect within 30 minutes.

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12. A tooth-bleaching composition according to claim 2, wherein the concentration of hydrogen peroxide in the composition is less than 15% by weight of the formulation.

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13. A tooth-bleaching composition according to claim 1, further comprising a means for mixing selected components of the composition by the subject prior to administration to the tooth surface.

14. A dosage delivery unit for tooth bleaching, comprising:

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a multi-chamber vessel wherein each chamber is responsive to an applied pressure from an external source, such that a mixture of reagents contained within a compartment will be forced to exit the compartment through a mixing baffle in response to the externally-applied pressure, the combined reagents comprising a peroxide-containing composition according to claim 1.

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5 (a) preparing a composition according to claim 1, and

(b) administering the formulation to the tooth surface.